

Work Order ID 70643

Friday, June 10, 2011 3:49:48 PM



Page 1

Item ID: D412-742-043

Accept



Setup Start



Revision ID:

Item Name: Replacement Float Skidtube

Stop



Start Date: 6/10/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: *mf*Date: *11-06-10*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

If D412-742-043 is a W/O on it's own,
Photocopy bluefile and create labels per PPP D412-742-043 CHG004*NA*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

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Start Date: 6/10/2011 Start Qty: 1.00



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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install tubes together and seal them all the way around using Sikaflex
241/291. Ensure tube ends line-up with saddle holes for proper alignment. using
7/16" "T" Pins.

A/R ☐ Sikaflex-241/-291 ☐ 11117516Expiry date: ☐ 15-61

2-Install wearplates as per Dwg D3391. Ensure that plastic washers are against
wearplate, then topped with the SS washer. Seal all bolts with sikaflex except
ones with inserts on inside of tube, hand tighten only bolts with no sikaflex.

A/R ☐ Sikaflex-241/-291 ☐ 11117516Expiry date: ☐ 18-61

3-Remove "T" pins once sikaflex is dry.

4-Coat all exposed hardware with LPS Procyon. Remove any excess off with
MEK degreaser.

A/R ☐ LPS Procyon ☐ 11114189

1 6 24 6/10/2011

Pho →

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D412-742-043 PAR #: N/A Fault Category: Finishing / Design NCR: (Yes) No DQA: A Date: 11.07.04
11-694 Resolution: Re work Disposition: Re work QA: N/C Closed: ck Date: 11/07/05

NCR: <u>70643</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>11/06/28</u>	<u>#110</u>	During Assembly hit bolt/ insert striped on and aft tube APts it was installed in the mid with the wear plate.	<u>CP</u> <u>11.06.29</u> <u>DS/BL</u>	- Fill in Punch marks with weld and Grind Flush. <u>AK</u>	<u>BE</u> <u>11/06/29</u>	<u>S</u> <u>11/06/29</u>	<u>CP</u> <u>11.06.29</u> <u>DS/BL</u>	<u>S</u> <u>11/06/28</u>
				Re touch up Alumin	<u>AK</u> <u>11/06/29</u>			
		Caused two punch marks to be in the mid tube while trying to remove the striped insert.	<u>CP</u> <u>11.06.29</u>	in affects area			<u>CP</u> <u>11.06.29</u>	<u>S</u> <u>11/06/28</u>
		Re touch up powder coat as per QSR 005			<u>AK</u> <u>11/06/29</u>			
		R.C. Process	<u>CP</u> <u>11.06.29</u>	* See Attached Email For Approval. FROM D. SNEED 11.06.29			<u>CP</u> <u>11.06.29</u>	<u>S</u> <u>11/06/28</u>

NOTE: Date & initial all entries

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Revision ID:

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Cust Item ID:

Required Date: 6/30/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Suldeh29



Quality Control

130

Packaging

0.00



Packaging

Memo

0.00

Identify and pack for shipping as per PPP D412-742-043

Location: _____

PPP Rev: _____

PPP70641

6/6/30 ①

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

11/6/30 J

Quality Control

U 11/6/30

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

Picklist.Print

Friday, June 10, 2011 3:49:42 PM

Page 1

Work Order ID: 70643

Parent Item: D412-742-043

Parent Item Name: Replacement Float Skidtube


Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00


Comments: IPP Rev A 05.10.13 New Issue KJ/JLM
 IPP Rev B 06.02.13 ECN 773 dwg @ rev.D EC
 IPP Rev:C 07-05-28 As per Rev F JLM
 IPP Rev:D 07-12-04 ECN 1072 DD verified by:JLM
 IPP Rev:E 08-09-08 ecn 08-510 DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C4A  BOLT		Purchased	No			110	Each	1,929.000	24	24			

Location Loc Qty Loc Code

ST350	1929	
117094	427	M118112
117313	2	
117688	800	
117795	500	
117872	200	

24 11/06/25

AN3C6A  BOLT		Purchased	No			110	Each	360.0000	12	12			
-----------------------------------------------------------------------------------------------------	--	-----------	----	--	--	-----	------	----------	----	----	--	--	--

Location Loc Qty Loc Code

FP-A	1	
111982	1	
ST351	359	
111982	2	
116419	23	
116549	22	
116704	12	
117514	100	
117619	50	
117688	100	
117872	50	

12 11/06/25

x12

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Page 2

Work Order ID: 70643

Parent Item: D412-742-043

Parent Item Name: Replacement Float Skidtube

Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C7A

Purchased

No

110

Each

159.0000

8

8



BOLT



Handwritten: 8 11/06/28

Location

Loc Qty

Loc Code

ST351

147

113149

14

116169

1

117313

82

117688

50

Handwritten: x8

ST352

12

117619

12

AN960C10L

NAS1149C0332

Purchased

No

110

Each

0.0000

44

44



R

Handwritten: 117887



Handwritten: (x44) 11/06/28

washer

D3391-021

Manufactured

No

110

Each

0.0000

1

1



Handwritten: B70649 (x1) 11/06/28

Fwd Tube Assembly

D3391-023

Manufactured

No

110

Each

1.0000

1

1



Handwritten: B70657 (x1) 11/06/28

Mid Tube Assembly

Location

Loc Qty

Loc Code

FP

1

69223

1

D3391-025

Manufactured

No

110

Each

1.0000

1

1



Handwritten: B70658 (x1) 11/06/28

Aft Tube Assembly

Location

Loc Qty

Loc Code

FP

1

69227

1

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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
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Page 3

Work Order ID: 70643



Parent Item: D412-742-043



Parent Item Name: Replacement Float Skidtube

Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-1

Manufactured No

110

Each

5.0000

1

1



Wearshoe



xl 11/06/28

Location

Loc Qty

Loc Code

FG

2

33798

2

B69291

xl

FP019

3

64747

3

D3564-3

Manufactured No

110

Each

15.0000

1

1



Wearshoe



xl 11/06/28

Location

Loc Qty

Loc Code

FG

2

33764

2

FP019

13

64748

3

66000

4

~~69290~~

6

xl

D3564-5

Manufactured No

110

Each

16.0000

1

1



Wearshoe



xl 11/06/28

Location

Loc Qty

Loc Code

FG

2

34806

2

FP019

14

~~68960~~

14

xl

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 4

Work Order ID: 70643



Parent Item: D412-742-043



Parent Item Name: Replacement Float Skidtube

Start Date: 6/10/2011

Required Date: 6/30/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-1

Manufactured No

110 Each

36.0000

2

2



Gasket



all u/06/28

Location

Loc Qty

Loc Code

FP015

36

68924

14

69279

22

✓2

D3566-5

Manufactured No

110 Each

30.0000

1

1



Gasket



all u/06/28

Location

Loc Qty

Loc Code

FP015

30

68961

30

✓1

Dart Aerospace Ltd

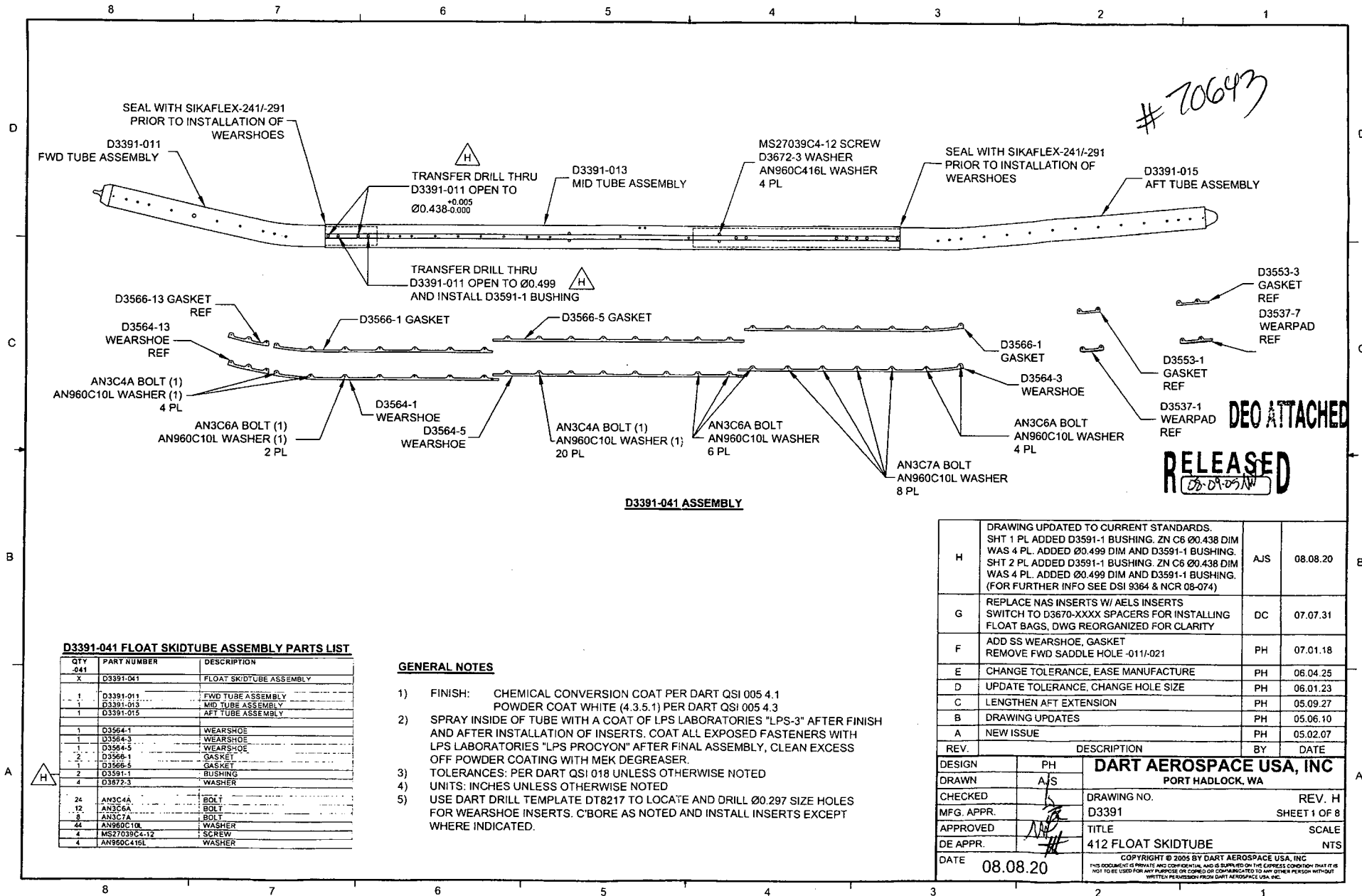
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Dart Aerospace Ltd

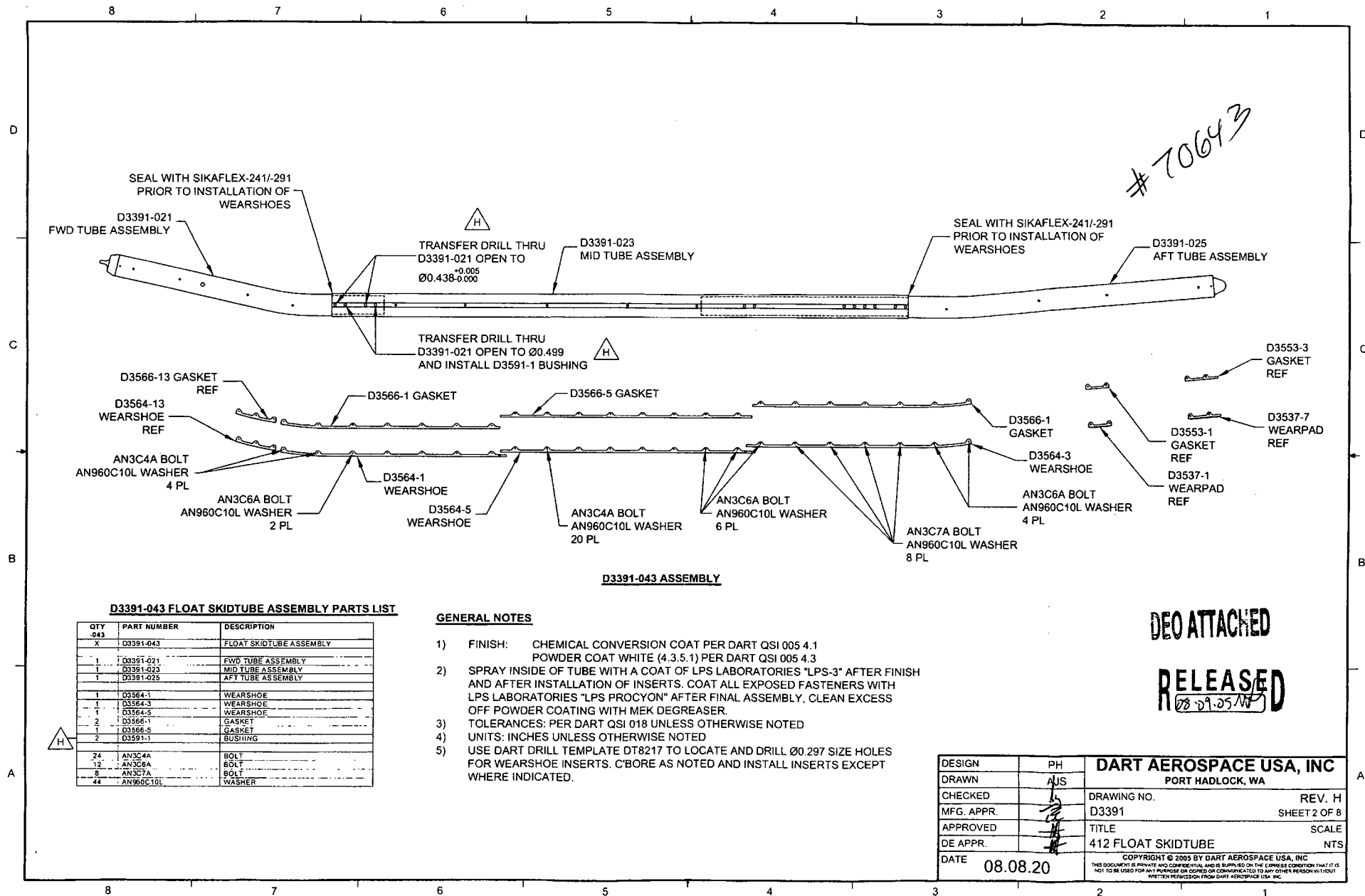
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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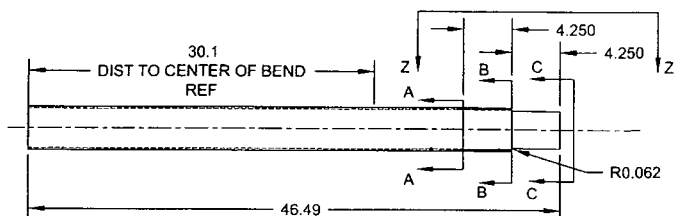
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

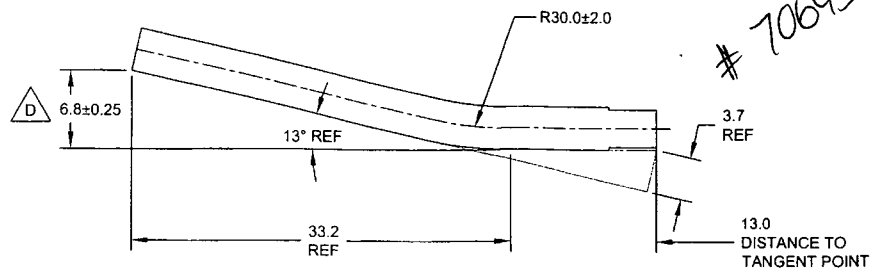
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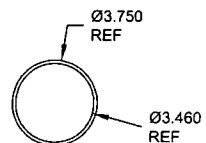
NOTE: Date & initial all entries



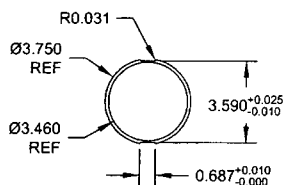
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



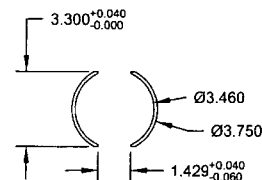
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



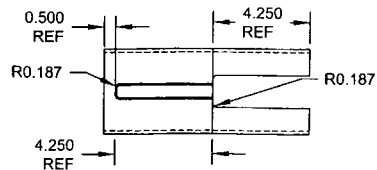
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

DEO ATTACHED
RELEASED
28-01-05 NW

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. H
MFG. APPR.	<i>[Signature]</i>	D3391	SHEET 3 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

Dart Aerospace Ltd

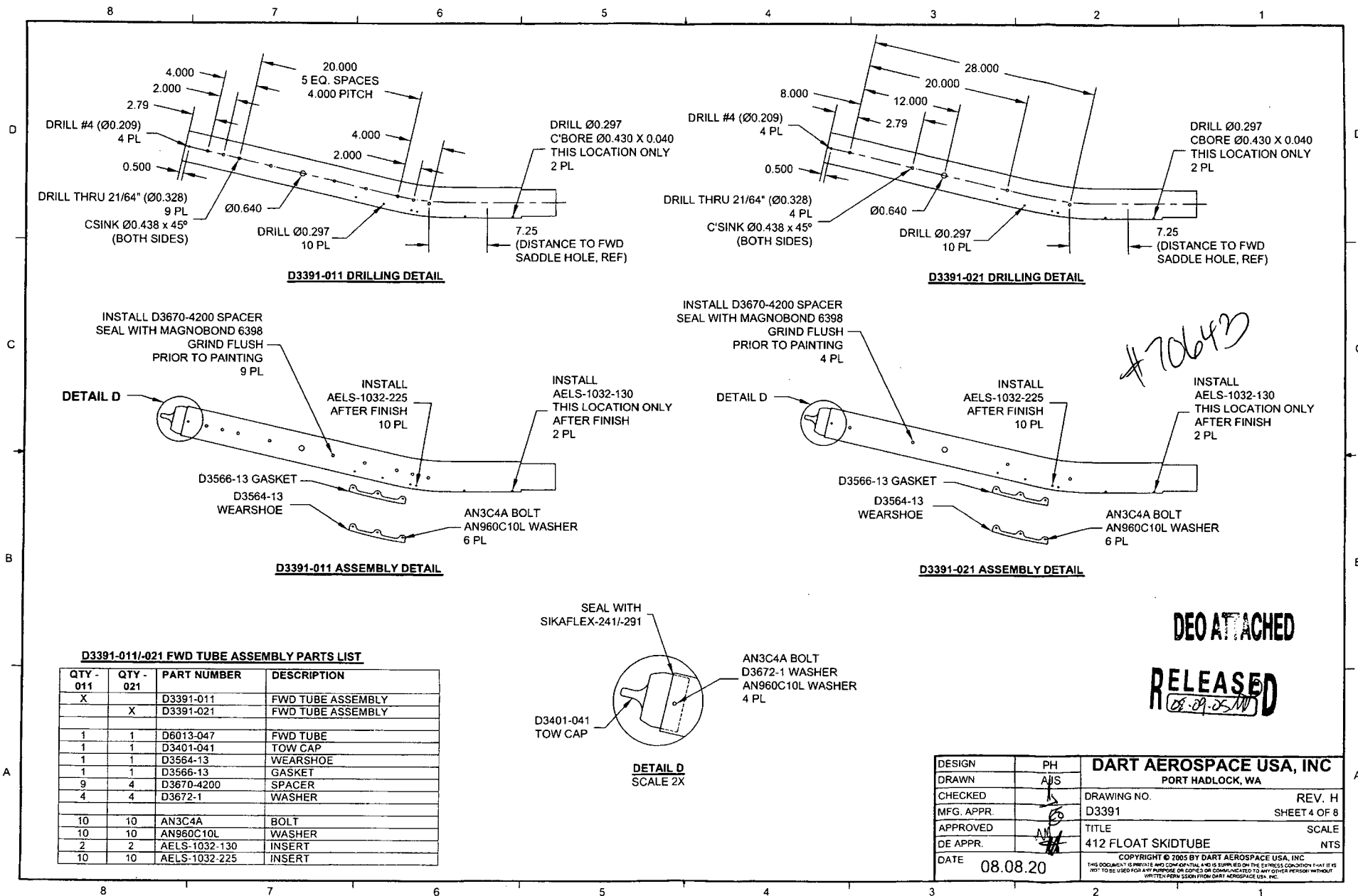
W/O:		WORK ORDER CHANGES					
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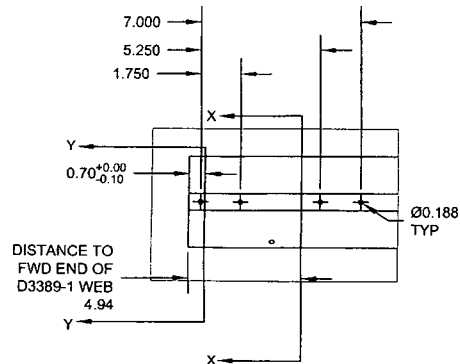
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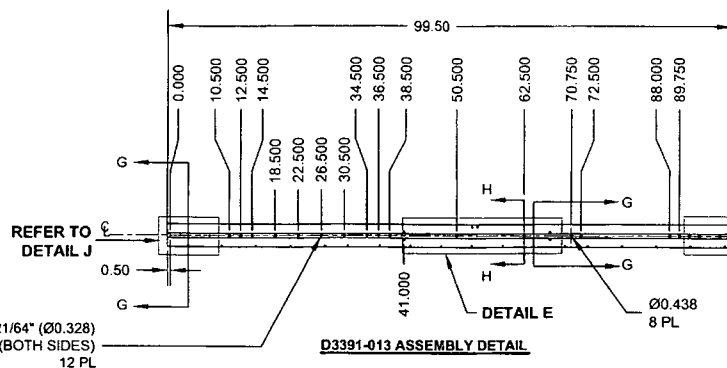
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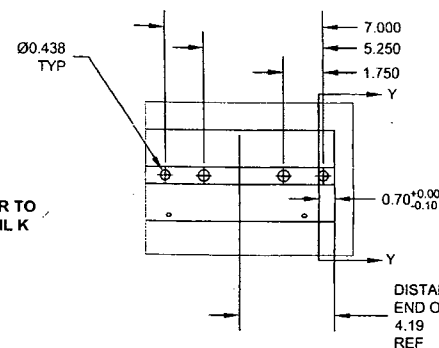


DETAIL J
SCALE 4X

DRILL THRU 21/64" (Ø0.328)
CSINK Ø0.438 X 45° (BOTH SIDES)
12 PL



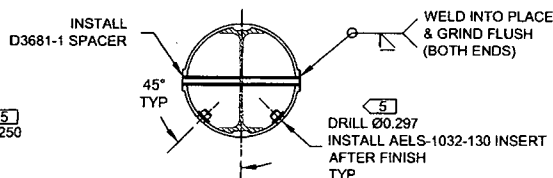
D3391-013 ASSEMBLY DETAIL



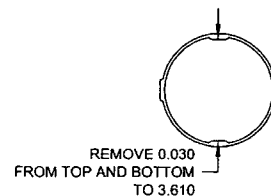
DETAIL K
SCALE 4X



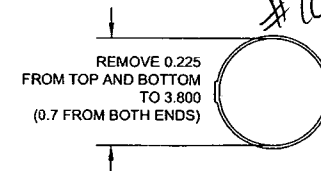
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



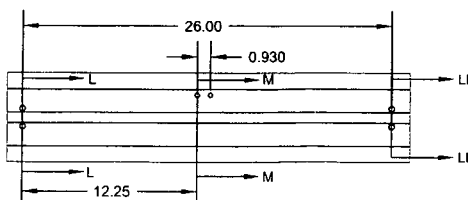
SECTION Y-Y
SCALE 5X

D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

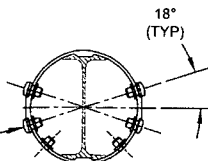
D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004

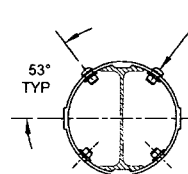


DETAIL E
SCALE NONE

DRILL Ø0.391
INSTALL ALS4-428-165 INSERT
MS27039C4-08 SCREW
D3672-3 WASHER
AN960C416L WASHER
AFTER FINISH
4 PL

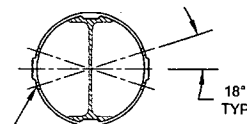


SECTION L-L
SCALE 5X



SECTION M-M
SCALE 5X

DRILL Ø0.250
4 PL



SECTION LL-LL
SCALE 5X

DEO ATTACHED

RELEASED

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

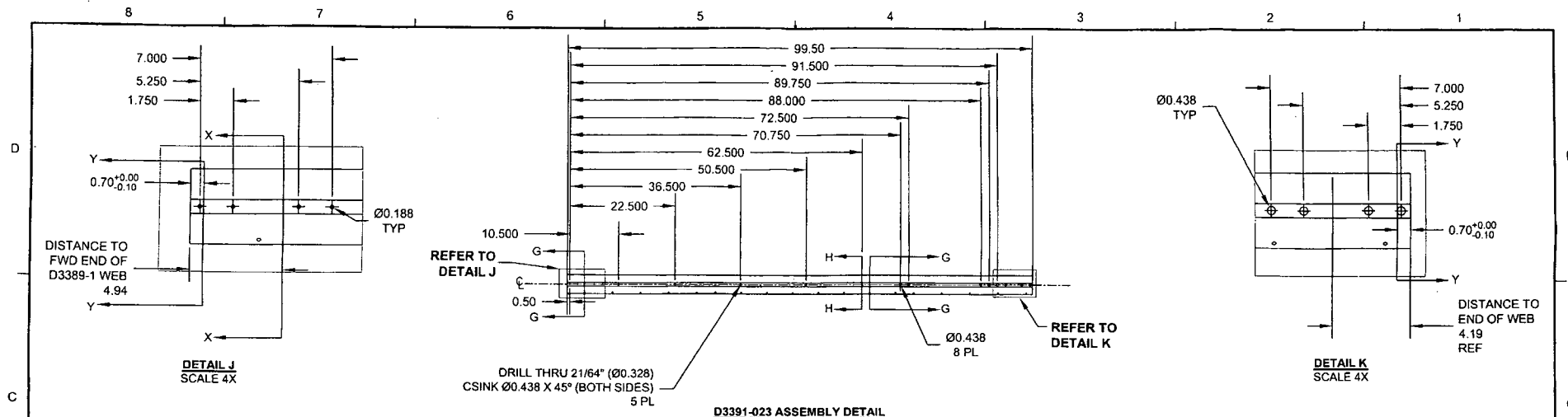
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

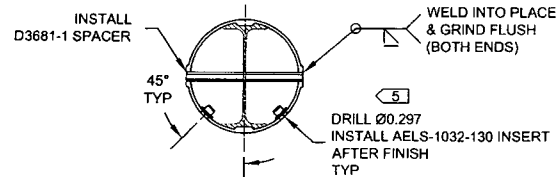
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

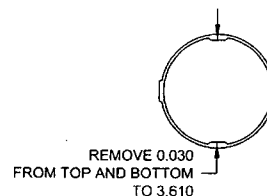
NOTE: Date & initial all entries



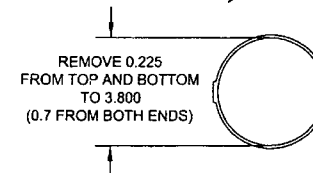
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCE WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DEO ATTACHED
RELEASED
08-09-05-14

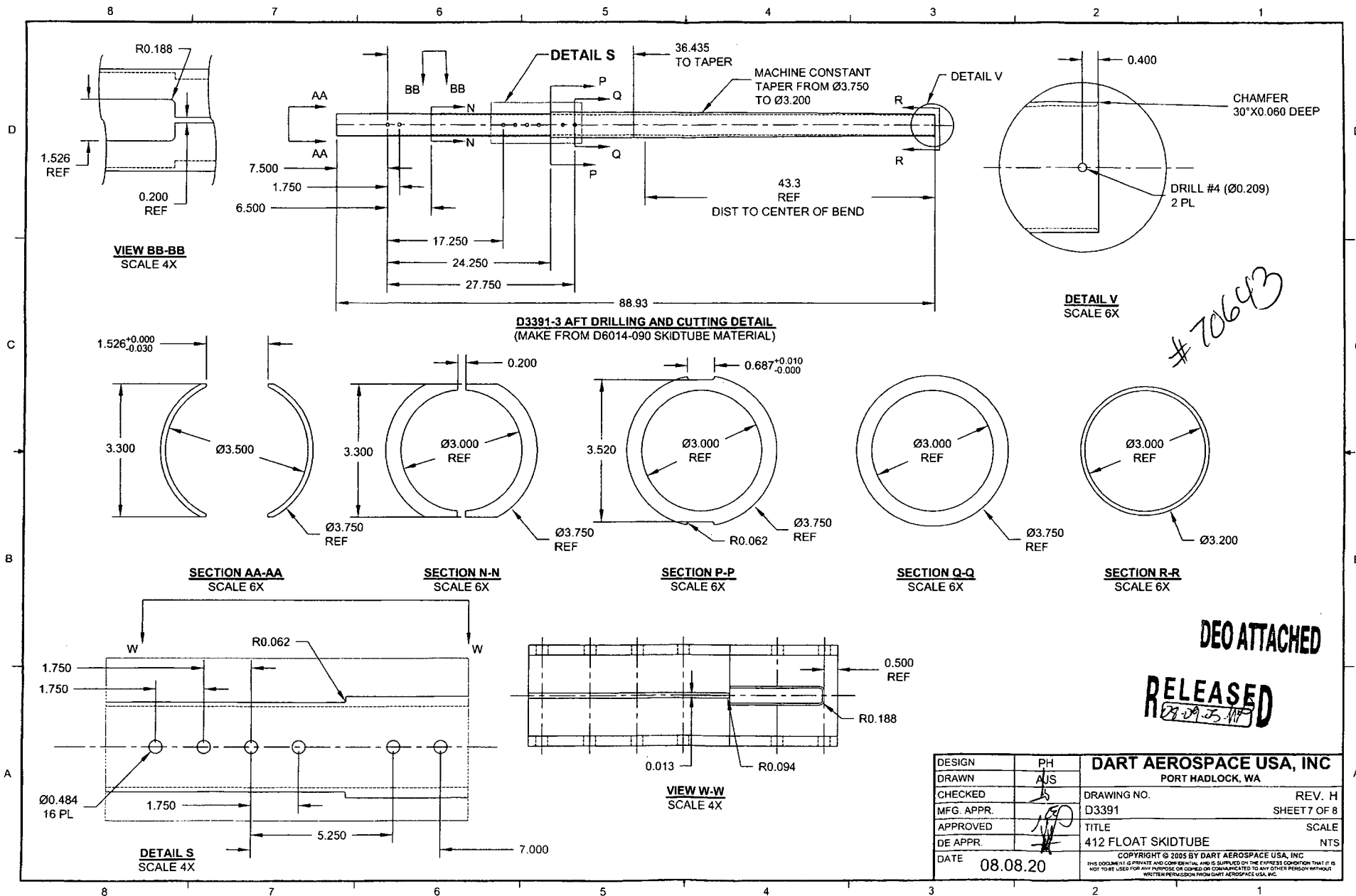
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries



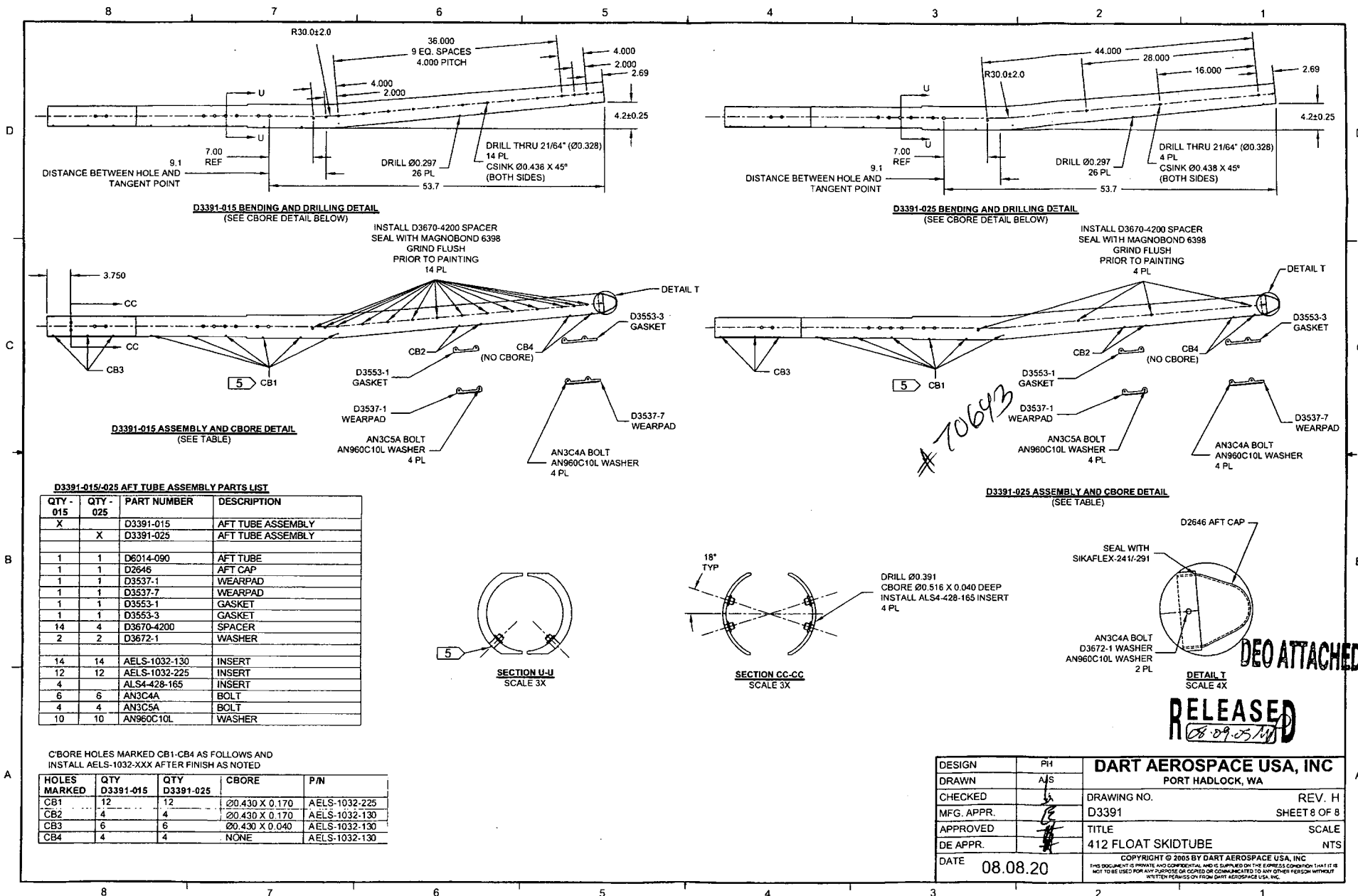
W/O:		WORK ORDER CHANGES					
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W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>h</i>	MFG. APPR. <i>h</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 09.09.23	DATE <i>09.09.24</i>	DATE <i>09/09/25</i>	DATE <i>09/09/30</i>		DATE <i>09/09/30</i>		

PURPOSE:

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

CHANGE:

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS
 OFF POWDER COATING WITH MEK DEGREASER.

RELEASED
 2010-02-02

MP

#70643

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Eric Downing

From: David Shepherd <dshepherd@dartaero.com>
Sent: June 29, 2011 11:55 AM
To: 'Eric Downing'; 'Chris Provencal'
Cc: 'Mike Petsche'; 'Bill Beckett'; 'Susanne Sheldon'
Subject: RE: NCR D3391-023
Attachments: DSC00931.jpg; NCR-D3391-023.jpg

REFERENCE ONLY

Chris,

I agree with you take on things. Your proposed repair is acceptable.

Eric,

If Chris' sketch is correct, then I suspect the reason the insert is being removed is that an insert is not required at that location since the insert should be in the aft extension inside the tube. The holes on either side look smaller (0.250") and the messed up hole looks bigger. Which means that the fabricator opened up that hole and tried to stuff an insert in there and then lied to you about why he was taking it out. Which means we have a much bigger problem! Might want to double check the story on this.

David

From: Eric Downing [mailto:edowning@dartaero.com]
Sent: Tuesday, June 28, 2011 12:32 PM
To: 'Chris Provencal'; 'David Shepherd'
Cc: 'Mike Petsche'
Subject: RE: NCR D3391-023

No Chris it wasn't while drilling wearshoe holes it was from trying to remove a striped insert during assembly.

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: June 28, 2011 2:03 PM
To: David Shepherd
Cc: Mike Petsche; Eric Downing
Subject: NCR D3391-023

David

While assembling a tri-bream tube, the drill slipped while drilling wearshoe holes. There are two drill marks in the bottom of the tube as shown in the attached files. We could fill these marks with weld and grind flush, however this would be an area of the tube under high stress during float loading. The only thing that might justify it is that the amount of welding would be very small. The heat affected zone may not be significant. The tube itself is almost complete.

-Chris